30128 - IT Systems for Management

Información del Plan Docente

Academic Year	2016/17
Academic center	175 - Escuela Universitaria Politécnica de La Almunia 179 - Centro Universitario de la Defensa - Zaragoza
Degree	425 - Bachelor's Degree in Industrial Organisational Engineering 457 - Bachelor's Degree in Industrial Organisational Engineering
ECTS	6.0
Course	3
Period	Second semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The learning process designed for this subject is based on the following:
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Strong interaction between the teacher/student. This interaction is brought into being through a division of work and responsibilities between the students and the teacher. Nevertheless, it must be taken into account that, to a certain degree, students can set their learning pace based on their own needs and availability, following the guidelines set by the teacher.

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The current subject (Information systems management) is conceived as a stand-alone combination of contents, yet organized into three fundamental and complementary forms, which are: the theoretical concepts of each teaching unit, the solving of problems or resolution of questions and laboratory work, at the same time supported by other activities

The organization of teaching will be carried out using the following steps:

— **Theory Classes** : Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.

— **Practical Classes** : The teacher resolves practical problems or cases for demonstrative purposes. This type of teaching complements the theory shown in the lectures with practical aspects.

— **Individual Tutorials** : Those carried out giving individual, personalized attention with a teacher from the department. Said tutorials may be in person or online.

Defence profile

The subject is characterized by both theoretical and practical sessions. Concerning the theoretical sessions, the learning process consists in the participation in the lessons and in the individual study. Supervised active learning and autonomous learning are instead applied in practical sessions through, respectively, the collaborative resolution of case studies/problems in the laboratory and the development of a project in team.

5.2.Learning activities

The program offered to the student to help him/her achieving the expected results includes the following activities...
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Involves the active participation of the student, in a way that the results achieved in the learning process are developed, not taking away from those already set out, the activities are the following:

— **Face-to-face generic activities** :

● **Theory Classes** : The theoretical concepts of the subject are explained and illustrative examples are developed as support to the theory when necessary.

● **Practical Classes** : Problems and practical cases are carried out, complementary to the theoretical concepts studied.

— **Generic non-class activities** :

● Study and understanding of the theory taught in the lectures.

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● Understanding and assimilation of the problems and practical cases solved in the practical classes.

● Preparation of seminars, solutions to proposed problems, etc.

● Preparation of the written tests for continuous assessment and final exams.

Defence profile

To achieve the learning results, the following activities will be carried out:

- Presentation of the subject contents in class by the professors.
- Resolution of problems/analysis of case studies, individually or in team.
- Development of a project in team, supervised by the professors
- Individual study of the subject by the students.
- Individual tutoring with the aim of revising and discussing the material and topics presented in class.

In particular, the resolution of problems/analysis of case studies will be carried out in the computer science laboratories by applying brainstorming techniques and using specific software tools as a support.

The project will be developed in team (2-5 students), where the students will apply the methods explained in class and use the software tools seen in laboratory.

5.3.Program

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Theory contents

- Introduction to Enterprise Information Systems .
- Capture and representation of information. UML modeling .
- Data management and information systems.
- Information systems for the relation with the environment of the organization.
- Basic concepts making up information systems and the technological environment they are currently supported by.
- Implementation and maintenance of information systems.
- Success cases of implementation and use of information systems .

Practical contents

- Initial study of implementation of an Enterprise Information System.
- Implementation design of an Enterprise Information Systems.

Defence profile

The program is structured in three main parts: the first one is an introduction to information systems and to the disciplines that provide the guidelines for their development (topics 1 and 2). The second part focuses on the modelling activities that are carried out during the early phases of the development of an information system (topics 3,4,5 and 6). Finally, the third part is focused on the use of information systems and decision support tools (topic 7):

1. Introduction to information systems
2. System and software engineering
3. Unified Modeling Language (UML)

4. Development of an information system: requirements definition and analysis
5. Introduction to databases
6. Development of a database: analysis and design
7. Use of information systems: decision support tools

The program will be available through the Moodle e-learning platform: https://moodle2.unizar.es

5.4.Planning and scheduling

Timetable of sessions and presentation of the works
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The subject has 6 ECTS credits, which represents 150 hours of student work in the subject during the trimester, in other words, 10 hours per week for 15 weeks of class.

A summary of a weekly timetable guide can be seen in the following table. These figures are obtained from the subject file in the Accreditation Report of the degree, taking into account the level of experimentation considered for the said subject is moderate.

Activity _____ **Weekly school hours**

Lectures _____ 4

Practical Activities _____ 6

Nevertheless the previous table can be shown into greater detail, taking into account the following overall distribution:

— 50 hours of lectures, with 50% theoretical demonstration and 50% solving type problems.

— 6 hours of written assessment tests, one hour per test.

— 4 hours of PPT presentations.

— 90 hours of personal study, divided up over the 15 weeks of the 2 nd semester.

There is a tutorial calendar timetable set by the teacher that can be requested by the students who want a tutorial

The dates of the final exams will be those that are officially published at http://eupla.unizar.es/index.php/secretaria-2/informacion-academica/distribucion-de-examenes .

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The written assessment tests will be related to the following topics:

1. Initial study of implementation of an Entrerprise Information System.
2. Implementation design of an Entrerprise Information Systems.

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The timetable of the subject will be defined by the center in the academic timetable of the corresponding course. All the sessions are in-class.

Information about the timetable of in-class sessions can be found through the website of the Centro Universitario de la Defensa: http://cud.unizar.es.

The following table shows the distribution of the work of the student for this subject (in hours) during the semester:

In-class hours	60 hours
Theoretical sessions	26 hours
Practical sessions	30 hours
Final assessment	4 hours
Out-of-class hours	*90 hours*
Individual work	50 hours
Team work	40 hours

Concerning the project to be developed in team, the professors present the project during the first weeks of class together with the planning of the partial deliveries during the semester. Possibly, the work team defends the developed project with a presentation in class.

The dates of the final assessment will be officially published in the website of the Centro Universitario de la Defensa: http://cud.unizar.es .

5.5.Bibliography and recomended resources

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- Alarcón, Vicenç Fernández. *Desarrollo de sistemas de información: Una metodología basada en el modelado* . Edicions UPC, 2010.
- Laudon, Kenneth C, Jane Price Laudon, y Antonio Núñez Ramos. *Sistemas de información gerencial : administración de la empresa digital* . 10 a ed. México: Pearson Educación, 2008.
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- Booch, G., Rumbaugh, J., & Jacobson, I. (2006). *El Lenguaje Unificado de Modelado : guía del usuario* (2a. ed.). Madrid: Addison-Wesley.
- Rumbaugh, J., Jacobson, I., & Booch, G. (2007). *El lenguaje unificado de modelado : manual de referencia* (2a. ed.). Madrid: Pearson Addison Wesley.

Software

- Odoo (https://www.odoo.com/)

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- Elmasri, Ramez. Fundamentos de sistemas de bases de datos / Ramez Elmasri, Shamkant B. Navathe ; traducción, José Manuel Díaz . - 5ª ed. Madrid [etc.] : Pearson Addison Wesley, D.L. 2007
- Trujillo Mondejar J.C., Mazón López N. y Pardillo Vela J. Diseño y explotación de almacenes de datos. Conceptos básicos de modelado multidimensional. 1ª ed. ECU, 2011
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